

**REMARKS**

In accordance with the foregoing, claim 54 has been amended. Claims 1-41 and 49-56 are pending, with claims 1, 7, 10, 23, 34, 39, 49, and 51 being independent. Claims 1-6, 10-22, 34-38, and 49-56 are under consideration as being directed to elected Invention I, with claims 1-6, 10-22, 34-38, 49, 50, and 52-56 being readable on elected Species A, and claim 51 being generic to elected Species A and non-elected Species B. Claims 7-9, 23-33, and 39-41 are withdrawn from consideration as being directed to elected invention I but being readable on non-elected Species B. Claims 4-6, 12-14, 17-22, 36-38, and 50 of Species A are linking claims that link together the inventions of Species A and B. Claims 26-30 of Species B are linking claims that link together the inventions of Species A and B. No new matter is presented in this Amendment After Final Rejection.

Claim Rejections Under 35 USC 112, Second Paragraph, and Entry of Amendment After Final Rejection

Claim 54 has been amended to depend from claim 34 to eliminate the deficiencies identified by the Examiner and overcome the rejection under 35 USC 112, second paragraph. Accordingly, entry of this Amendment After Final Rejection is proper under 37 CFR 1.116(b) and MPEP 714.12 and 714.13 because the amendment of claim 54 does not raise the issue of new matter, and does not present new issues requiring further consideration and/or search because claim 54 now depending from claim 34 recites the same limitation as claim 52 depending from claim 1 and claim 53 depending from claim 10. Since the Examiner has examined claims 52 and 53 on the merits and has alleged that they would have been obvious because "[a] change in size is generally recognized as being within the level of ordinary skill in the art," it is submitted that the amendment of claim 54 does not present new issues requiring further consideration and/or search.

Error in the Office Action Summary

In item 4a in the Office Action Summary (the form PTOL-326) of the Final Office Action of November 30, 2006, the Examiner indicates that claims 7-9, 23-33, and 39-48 are withdrawn from consideration. However, claims 42-48 were canceled in the Amendment of August 29,

2006, and accordingly it is submitted that the Examiner should have indicated that claims 7-9, 23-33, and 39-41 are withdrawn from consideration.

The Examiner Was Required to Consider Linking Claims 26-30

As pointed out on page 3 of the Response to Restriction and Election Requirement of April 7, 2006, claims 26-30 are linking claims that link together the inventions of elected Species A and non-elected Species B, and pursuant to MPEP 806.04 and 809, the Examiner is required to consider linking claims 26-30 together with generic claim 51 and claims 1-6, 10-22, 34-38, and 49-50 of elected Species A. However, the Examiner nevertheless withdrew linking claims 26-30 from consideration in the Office Action of June 29, 2006, stating as follows in pertinent part:

Claim 51 is generic and should claim 51 be allowed later, the linking claims 26-30, which link together the inventions of Species A and B and generic claim 51.

However, this statement appears to be incomplete and thus cannot be understood, and it is respectfully requested that the Examiner clarify this statement. **The applicants made this same request on page 13 of the Amendment of August 29, 2006, but the Examiner did not respond to this request in the Final Office Action of November 30, 2006.**

Furthermore, the Examiner's attention is directed to the following statement in MPEP 809 that appears in the right-hand column on MPEP page 800-53:

The linking claims must be examined with, and thus are considered part of, the invention elected.

Accordingly, it is submitted that the Examiner was required to consider linking claims 26-30 in the Office Action of June 29, 2006. The applicants pointed this out on page 13 of the Amendment of August 29, 2006, and requested that linking claims 26-30 be considered in the next Office Action. However, the Examiner did not consider linking claims 26-30 in the Final Office Action of November 30, 2006, but stated as follows:

Regarding Applicant's arguments concerning linking claims 26-30, the Examiner notes that they depend on a non-elected invention. Since they depend on a non-elected invention, they will only be examined if the elected invention becomes allowable.

However, the Examiner's refusal to consider linking claims 26-30 is contrary to the requirement in MPEP 809 that "[t]he linking claims must be examined with, and thus are considered part of, the invention elected" which is reproduced above. MPEP 809 does not provide for an exception where the linking claims depend on a non-elected invention. Accordingly, it is submitted that the Examiner is required by MPEP 809 to consider linking claims 26-30 regardless of whether the elected invention is allowable, and it is respectfully requested that linking claims 26-30 be considered in the next Office Action. Furthermore, should the Examiner reject any of linking claims 26-30 in the next Office Action, it is submitted that the Examiner cannot make that Office Action final because the Examiner should have considered linking claims 26-30 in the Office Action of June 29, 2006, and the Final Office Action of November 30, 2006.

#### Claim Rejections Under 35 USC 102

Claims 1-6 and 49-51 were rejected under 35 USC 102(b) as being anticipated by Nakagawara et al. (Nakagawara) (JP 2002-060927). This rejection is respectfully traversed.

It is noted that the Examiner has alleged that numerous features of claims 1-6 and 49-51 are disclosed in Nakagawara without identifying where these features are disclosed in Nakagawara as required by *Ex parte Levy*, 17 USPQ2d 1461 (Bd. Pat. App. & Inter. 1990), at 1462 where the Board states as follows in pertinent part (emphasis added):

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed combination. (Citations omitted.) Moreover, it is incumbent upon the Examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference. (Citation omitted.)

Accordingly, should the Examiner maintain the rejection of any of claims 1-6 and 49-51 under 35 USC 102(b) as being anticipated by Nakagawara, it is respectfully requested that the Examiner identify wherein each and every facet of such rejected claims is disclosed in Nakagawara in the next Office Action, even if that Office Action is an Advisory Action.

The applicants also made the above arguments based on *Levy* on page 14 of the Amendment of August 29, 2006, but the Examiner did not take note of these arguments and answer the substance of them in the Final Office Action of November 30, 2006, as

required by MPEP 707.07(f) because the explanation of the rejection of claims 1-6 and 49-51 on pages 3-4 of the Final Office Action of November 30, 2006, is identical to the explanation of the rejection of claims 1-6 and 49-51 on pages 4-5 of the Office Action of June 29, 2006.

It is submitted that Nakagawara does not disclose "[a]n evaporation mask formed of a thin film" as recited in independent claims 1 and 49 or "[a] mask unit for an evaporation mask" as recited in independent claim 51 because mask 1 shown in FIG. 1 of Nakagawara is a sputtering mask (see paragraph [0016] of Nakagawara), rather than an evaporation mask as recited in claims 1, 49, and 51, and is formed of a stainless steel plate that is 2 mm thick (see paragraph [0014] of Nakagawara), rather than being formed of a thin film as recited in claims 1 and 49.

It is submitted that "evaporation" as recited in claims 1, 49, and 51 is a completely different physical process than sputtering as disclosed in Nakagawara.

**The applicants also made the above arguments with respect to "evaporation" versus sputtering on page 14 of the Amendment of August 29, 2006, but the Examiner did not take note of these arguments and answer the substance of them in the Final Office Action of November 30, 2006, as required by MPEP 707.07(f).**

Although the Examiner considers paragraph [0014] of Nakagawara to disclose that mask 1 in FIG. 1 of Nakagawara is formed of a thin film as recited in claims 1 and 49, it is submitted that the phrase "the mask 1 for pattern membrane formation for thin films" in paragraph [0014] of Nakagawara presumably relied on by the Examiner means that mask 1 in FIG. 1 of Nakagawara is used to form an ITO membrane or thin film on the color filter substrate 4 shown in FIG. 2 of Nakagawara as described, for example, in paragraph [0016] of Nakagawara, not that mask 1 is formed of a thin film as apparently misunderstood by the Examiner. Furthermore, it is submitted that one of ordinary skill in the art would not consider the stainless steel plate from which Nakagawara's mask 1 is made that is 2 mm = 2000  $\mu$ m = 2,000,000 nm thick to be "a thin film" as recited in claims 1 and 49.

**The applicants also made the above arguments with respect to "a thin film" on page 14 of the Amendment of August 29, 2006.**

In response to these arguments, the Examiner states as follows on page 14 of the Final Office Action of November 30, 2006:

The Examiner notes that the mask [in FIG. 1 of Nakagawara] is thin enough to be considered a thin film. Applicant has not claimed the material that the mask is made from so it could be made from any known material.

However, claims 1 and 49 recite "[a]n evaporation mask formed of a thin film." The Examiner cannot consider the mask to be "made from any known material" since "[a]pplicant has not claimed the material that the mask is made of" because this interpretation by the Examiner effectively reads the limitation "formed of a thin film" out of claims 1 and 49. Nakagawara does not disclose that the mask 1 in FIG. 1 of Nakagawara is "formed of a thin film" as recited in claims 1 and 49, but discloses that the mask 1 is formed of a stainless steel plate that is 2 mm = 2000  $\mu$ m = 2,000,000 nm thick. The Examiner is required by MPEP 2111.01(I) to give the words of a claim their "plain meaning" unless such meaning is inconsistent with the specification (see MPEP 2111.01(I) on MPEP page 2100-38), where "plain meaning" refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art (see MPEP 2111.01(III) on MPEP pages 2100-39 through 2100-41). It is submitted that one of ordinary skill in the art would not consider Nakagawara's mask 1 which is formed of a stainless steel plate that is 2 mm = 2000  $\mu$ m = 2,000,000 nm thick to be "formed of a thin film" as recited in claims 1 and 49.

Furthermore, it is submitted that Nakagawara does not disclose the feature of claims 1 and 49 "wherein the evaporation mask is drawn taut by application of tension," or "a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 1, or "at least one first dummy aperture formed adjacent to an outermost at least one main aperture in a direction in which tension is applied to the evaporation mask" as recited in claim 49, or the feature of claim 51 "wherein the dummy aperture prevents the main aperture from being deformed by tension applied to the evaporation mask" because nothing whatsoever in Nakagawara discloses that tension is applied to mask 1. Nor did the Examiner point out where the "tension" features of claims 1, 49, and 51 are allegedly disclosed in Nakagawara. Furthermore, with respect to claim 51, dummy openings 3 in FIG. 1 of Nakagawara prevent mask 1 from being deformed by thermal expansion, rather than by tension applied to mask 1. See paragraphs [0003] and [0006] of Nakagawara.

**The applicants also made the above arguments with respect to "tension" on pages 14-15 of the Amendment of August 29, 2006, but the Examiner did not take note of these**

**arguments and answer the substance of them in the Final Office Action of November 30, 2006, as required by MPEP 707.07(f).**

In explaining the rejection of dependent claim 4, the Examiner states that dummy openings 3 in FIG. 1 of Nakagawara correspond to "a plurality of second dummy apertures formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask " as recited in claim 4. However, in explaining the rejection of claim 1 from which claim 4 indirectly depends, the Examiner states that dummy openings 3 in FIG. 1 of Nakagawara correspond to "a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 1. It is submitted that dummy openings 3 in FIG. 1 of Nakagawara cannot correspond to both "a plurality of first dummy apertures" as recited in claim 1 and "a plurality of second dummy apertures" as recited in claim 4 as alleged by the Examiner. Since the Examiner considers dummy openings 3 in FIG. 1 of Nakagawara to correspond to "a plurality of first dummy apertures" as recited in claim 1, it is submitted that there are no other openings in FIG. 1 of Nakagawara that can be considered to correspond to "a plurality of second dummy apertures" as recited in claim 4. Accordingly, it is submitted that Nakagawara does not disclose "a plurality of second dummy apertures formed outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask" as recited in claim 4.

**The applicants also made the above arguments with respect to "a plurality of second dummy apertures" on page 15 of the Amendment of August 29, 2006.**

On page 14 of the Final Office Action of November 30, 2006, the Examiner states as follows:

The Examiner also notes that pluralities of dummy apertures are surrounded on the outside of the mask in figure 1. Hence, a plurality of apertures exists.

To the extent that these statements by the Examiner are intended to be a response to the applicants' arguments with respect to "a plurality of second dummy apertures," it is submitted that the Examiner has not answered the substance of the arguments as required by MPEP 707.07(f) because the Examiner has not explained how the dummy openings 3 in FIG. 1 of Nakagawara can be considered to correspond to both "a plurality of first dummy apertures" as

recited in claim 1 and "a plurality of second dummy apertures" as recited in claim 4 depending indirectly from claim 1 as alleged by the Examiner.

Furthermore, claim 1 recites "at least one mask unit, comprising: a plurality of main apertures, and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures," while claim 4 indirectly depending from claim 1 recites "at least two mask units" and "a plurality of second dummy apertures formed outside and adjacent to the outermost mask units." Thus, the plurality of first dummy apertures recited in claim 1 are part of at least one mask unit and are formed adjacent to outermost ones of main apertures that are also part of the at least one mask unit, while the second dummy apertures recited in claim 4 are formed outside and adjacent to the outermost mask units. It is submitted that the dummy openings 3 in FIG. 1 of Nakagawara do not provide all of the features of both the "plurality of first dummy apertures" recited in claim 1 and the "plurality of second dummy apertures" recited in claim 4. Nor has the Examiner explained why she considers the dummy openings 3 in FIG. 1 of Nakagawara to provide all of these features.

It is submitted that Nakagawara does not disclose "at least one second dummy aperture formed outside and adjacent to the outermost at least one mask unit in the direction in which tension is applied to the evaporation mask" as recited in dependent claim 50 for at least the same reasons discussed above that Nakagawara does not disclose the similar feature of claim 4.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1-6 and 49-51 (i.e., claims 1, 4, and 49-51 discussed above and claims 2, 3, 5, and 6 depending directly or indirectly from claim 1) under 35 USC 102(b) as being anticipated by Nakagawara be withdrawn.

#### Claim Rejections Under 35 USC 103

##### Rejection 1

Claims 10-22, 34-38, and 53 were rejected under 35 USC 103(a) as being unpatentable over Yamada et al. (Yamada) (U.S. Patent Application Publication No. 2001/0019807) in view of Kim et al. (Kim) (U.S. Patent Application Publication No. 2003/0111957) in further view of Nakagawara. This rejection is respectfully traversed.

As recognized by the Examiner, Yamada does not disclose that deposition mask 100 in FIGS. 6A-6B of Yamada which is used for deposition by evaporation is "drawn taut by application of tension" as recited in independent claim 10. Furthermore, as recognized by the Examiner, Yamada's deposition mask 100 does not have "at least one mask unit, the mask unit comprising . . . a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 10.

However, the Examiner considers mask 1 in FIG. 1 of Nakagawara to be "drawn taut by application of tension" as recited in claim 10 and to have "at least one mask unit, the mask unit comprising . . . a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 10, and is of the opinion that it would have been obvious "to modify Yamada's invention to include the evaporation mask [of Nakagawara]. . . for maintaining adhesion and absorbing thermal expansion" based on paragraph [0016] of Nakagawara.

However, it is submitted that Nakagawara's mask 1 is not "drawn taut by application of tension" as recited in claim 10 as alleged by the Examiner and does not have "at least one mask unit, the mask unit comprising . . . a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 10 as alleged by the Examiner for at least the same reasons discussed above that Nakagawara does not disclose the similar features of claims 1, 49, and 51.

Furthermore, as discussed above in connection with claims 1, 49, and 51, Nakagawara's mask 1 is a sputtering mask, rather than an evaporation mask as alleged by the Examiner. In contrast, Yamada's deposition mask 100 is an evaporation mask, and it is not seen where Yamada discloses or suggests that Yamada's deposition or evaporation mask 100 suffers from the adhesion and thermal expansion problems described in paragraphs [0003] and [0006] of Nakagawara that Nakagawara's sputtering mask 1 is designed to solve. Accordingly, absent the applicants' disclosure, it is submitted that nothing whatsoever in Yamada, Kim, and Nakagawara or elsewhere in the prior art would have motivated one of ordinary skill in the art to modify Yamada's invention to include Nakagawara's sputtering mask 1 as proposed by the Examiner.

Accordingly, it is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest "disposing an evaporation mask to form an organic film over the substrate, the evaporation mask drawn taut by application of tension and having at least one mask unit, the



mask unit comprising a plurality of main apertures and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in claim 10.

It is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest "disposing an evaporation mask to form second electrodes over the organic film, the evaporation mask drawn taut by application of tension and comprising a plurality of main apertures and a plurality of first dummy apertures formed adjacent to outermost ones of the main apertures in a direction in which tension is applied to the evaporation mask" as recited in independent claim 34 for at least the same reasons discussed above that Yamada, Kim, and Nakagawara do not disclose or suggest the similar features of claim 10.

**The applicants also made the above arguments with respect to claims 10 and 34 on pages 16-17 of the Amendment of August 29, 2006, but the Examiner did not take note of these arguments and answer the substance of them in the Final Office Action of November 30, 2006, as required by MPEP 707.07(f).**

It is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest "a plurality of second dummy apertures outside and adjacent to outermost ones of the mask units in the direction in which tension is applied to the evaporation mask" as recited in dependent claims 12 and 36, or "a plurality of second dummy apertures outside and adjacent to the outermost mask units in the direction in which tension is applied to the evaporation mask" as recited in dependent claim 17, or "a plurality of second dummy apertures outside and adjacent to outermost mask units in the direction in which tension is applied to the evaporation mask" as recited in dependent claim 20 for at least the same reasons discussed above that Nakagawara does not disclose the same or similar feature of claim 4.

It is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest the feature "wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures" recited in dependent claim 53 because, as shown in FIG. 1 of Nakagawara, the length of the dummy openings 3 in the mask 1 is greater than the length of the openings 2 in the mask 1.

**The applicants also made the above arguments with respect to claim 53 on page 18 of the Amendment of August 29, 2006.**

In explaining the rejection of claim 53 in the Final Office Action of November 30, 2006, the Examiner states as follows:

Regarding claim 53, the combined reference of Yamada, Kim, and Nakagawara disclose the method of claim 10, but do not expressly disclose that a length of each of the first dummy apertures is equal to a length of each of the main apertures, as claimed by Applicant. It would have been obvious to one with ordinary skill in the art to have the length of each of the first dummy apertures is equal to a length of each of the main apertures, since such a modification would have involved a mere change in the size of the apertures. A change in size is generally recognized as being within the level of ordinary skill in the art.

However, the Examiner has not cited any statute, rule, procedure, or decision in support of her position that "[a] change in size is generally recognized as being within the level of ordinary skill in the art," and accordingly it is submitted that the Examiner has not established a *prima facie* case of obviousness under 35 USC 103(a) with respect to claim 53.

Furthermore, it appears from Nakagawara that the size of the dummy apertures 3 in the mask 1 in FIG. 1 of Nakagawara is critical to the operation of the mask 1. As can be seen from paragraphs [0007], [0008], [0015], and [0021] of the English translation of Nakagawara provided by the Examiner with the Office Action of June 29, 2006, a mask area pulse duty factor of the dummy openings 3 in the mask 1 in FIG. 1 of Nakagawara must be within a range of 2% to 20%, and preferably in a range of 9% to 11%, in order for the mask 1 to operate as disclosed by Nakagawara, and that a mask area pulse duty factor of less than 2% or more than 20% prevents the mask 1 from operating as disclosed by Nakagawara. In light of this explicit disclosure in Nakagawara about the criticality of the size of the dummy openings 3, it is submitted that it would not have been obvious to arbitrarily change the size of Nakagawara's dummy openings 3 so that the length of dummy openings 3 is equal to the length of the openings 2 as proposed by the Examiner in order to provide the feature "wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures" recited in dependent claim 53.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 10-22, 34-38, and 53 (i.e., claims 10, 12, 17, 20, 34, 36, and 53 discussed above and claims 11, 13, 14, 15, 16, 18, 19, 21, 22, 35, 37, and 38 depending directly or indirectly from one or more of claims 10, 12, 17, 20, 34, and 36) under 35 USC 103(a) as being unpatentable over Yamada in view of Kim in further view of Nakagawara be withdrawn.

## Rejection 2

Claims 52, 55, and 56 were rejected under 35 USC 103(a) as being unpatentable over Nakagawara. This rejection is respectfully traversed.

It is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest the feature "wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures" recited in dependent claim 52, or the feature "wherein a length of each of the at least one first dummy aperture is equal to a length of each of the at least one main aperture" recited in dependent claim 55, or the feature "wherein a length of the dummy aperture is equal to a length of the main aperture" recited in dependent claim 56 for at least the same reasons discussed above that Yamada, Kim, and Nakagawara do not disclose or suggest the same or similar feature of claim 53.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 52, 55, and 56 under 35 USC 103(a) as being unpatentable over Nakagawara be withdrawn.

## Patentability of Claim 54

The Examiner did not examine dependent claim 54 on the merits in the Final Office Action of November 30, 2006. However, it is submitted that Yamada, Kim, and Nakagawara do not disclose or suggest the feature "wherein a length of each of the first dummy apertures is equal to a length of each of the main apertures" recited in claim 54 for at least the same reasons discussed above that Yamada, Kim, and Nakagawara do not disclose or suggest the same feature of claim 53.

For at least the foregoing reasons, it is submitted that claim 54 is patentable over Yamada, Kim, and Nakagawara, and an indication to that effect is respectfully requested.

## Rejoinder of the Invention of Non-Elected Species B

Since claim 51 which is generic to elected Species A and non-elected Species B is allowable for the reasons discussed above, and since claims 4-6, 12-14, 17-22, 36-38, and 50 of Species A which are linking claims that link together the inventions of Species A and B are

allowable for the reasons discussed above, it is submitted that the applicants are entitled to rejoinder of the invention of non-elected Species B pursuant to 37 CFR 1.141(a) and MPEP 821.04(a). Accordingly, it is respectfully requested that the requirement for an election of species be withdrawn, and that claims 7-9, 23-33, and 39-41 which are currently withdrawn from consideration as being readable on non-elected Species B (and which include linking claims 26-30 that the Examiner was required consider in the Final Office Action of November 30, 2006, but did not do so) be examined on the merits.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with the filing of this paper, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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